

WHAT IS CLAIMED IS:

1. A DC-DC converter comprising:  
a synchronous semiconductor device; and  
a control semiconductor device;  
wherein at least one of said semiconductor device includes:  
5 a semiconductor body having a major surface;  
an active region formed in said semiconductor body; and  
a termination structure, said termination structure including,  
a termination trench formed in said semiconductor body, and a field oxide  
layer formed in said termination trench below said major surface.
2. A semiconductor device according to claim 1, wherein said  
semiconductor body is of a first conductivity and includes a channel region of a  
second conductivity, and further comprising at least one gate structure adjacent said  
channel region.
3. A semiconductor device according to claim 2, further comprising a  
trench extending through said channel region, wherein said gate structure is disposed  
in said trench and includes a gate oxide layer disposed at least on said sidewalls of  
said trench and a gate electrode disposed adjacent said gate oxide layer.
4. A semiconductor device according to claim 3, wherein said trench  
include an oxide mass formed at its bottom said oxide mass being thicker than said  
gate oxide layer.
5. A semiconductor device according to claim 4, wherein said  
semiconductor body includes conductive regions of said first conductivity formed

adjacent said trench in said channel region, and further comprising a semiconductor substrate of said conductivity, said semiconductor body being formed over said semiconductor substrate, wherein said conductive regions are electrically connectable to said semiconductor substrate through invertible channels adjacent said trench.

6. A semiconductor device according to claim 5, wherein said conductive regions are source regions.

7. A semiconductor device according to claim 3, wherein the depth of said trench has been selected to achieve an optimum figure of merit.

8. A semiconductor device according to claim 3, wherein said trench is a stripe.

9. A semiconductor device according to claim 3, wherein said trench is a cell.

10. A semiconductor device according to claim 9, wherein said cell is hexagonal.